



## Weekly Precious Metals News Articles: July 23, 2021

*Distribution: If you no longer wish to be on this mailing list, send me a note. If others want to be added to distribution, again let me know.*

### Below is a cross section of relevant news article to the world of Precious Metals:

Markets, Supply & Demand, Investment, and Industrial Applications.

**Printable PDF version attached.** Enjoy-

### Gold

- **Record inflation levels are coming with no growth, 'the worst of all worlds' - Steve Hanke**
  - Inflation in the U.S. will climb to between 6% and 9% by year-end, said Steve Hanke, professor of Applied Economics. Speaking to David Lin, anchor for Kitco News, Hanke, who has served on Ronald Reagan's Council of Economic Advisors, said that the rapid growth of the money supply last year has "worked like a charm" in boosting the economy and in turn, fueling growth in asset prices.
  - Hanke's comments come as headline inflation in June reached 5.4% y/y, the highest on record since 2008. He noted the rise in 2021 inflation has been caused "100%" by the growth of the money supply. <https://www.kitco.com/news/2021-07-17/Record-inflation-levels-are-coming-with-no-growth-the-worst-of-all-worlds-Steve-Hanke.html>
- **There is Still Mettle Left in the Precious Metals**
  - Despite the recent selloff, we judge that the Fed's continued emphasis on its full employment mandate should see gold recover most of its recent losses. The relatively new flexible ave. inflation targeting policy framework and the implied willingness to overshoot inflation targets for a period, should the output gap remain wide, are just a few reasons why easy monetary conditions will persist into 2023. The US central bank should keep real interest rate environment highly accommodative across the yield curve for a prolonged period, which is gold and precious metal complex supportive. <https://www.sbma.org.sg/media-centre/publication/crucible-issue-18/there-is-still-mettle-left-in-the-precious-metals/>
- **Brazilian Central Bank buys 41.8 tons of gold to bolster reserves**
  - After years without substantially changing the amount of gold in its international asset reserves, the Brazilian Central Bank headed by Roberto Campos Neto bought 41.8 tons of the metal in June.
  - With this, the volume of gold that is held in the reserves jumped 52.7% in just one month, to 121.1 tons - equivalent to US\$6.873 billion. The value of the June purchase was not disclosed. <https://riotimesonline.com/brazil-news/brazil/brazilian-central-bank-buys-41-8-tons-of-gold-to-bolster-reserves/>
- **Recovering risk appetite and firm U.S. yields sour gold's appeal | Nasdaq**
  - Gold prices were subdued on Thursday as stocks marched higher and U.S. bond yields firmed, overshadowing a dovish European Central Bank policy outlook and a softer dollar. <https://www.nasdaq.com/articles/precious-recovering-risk-appetite-and-firm-u.s.-yields-sour-golds-appeal-2021-07-22>

### Semiconductor Related Articles (impacting Precious Metals electronics):

- **Intel in talks to buy GlobalFoundries for about \$30 billion - WSJ**

- Intel, one of the last companies in the semiconductor industry that both designs and manufactures its own chips, said earlier this year it would expand its advanced chip manufacturing capacity by spending as much as \$20 billion to invest in factories in the U.S. <https://www.reuters.com/business/intel-talks-buy-globalfoundries-about-30-billion-wsj-2021-07-15/>
- **Apple seeks up to 20% increase in new iPhone supply**
  - Apple Inc has asked suppliers to build as many as 90 million next-generation iPhones this year, an increase from its shipments last year, people with knowledge of the matter said. <https://www.taipeitimes.com/News/biz/archives/2021/07/15/2003760851>
- **Chip Shortages May Persist Until 2023, Analysts Say**
  - The end of shortages in 2023 may be followed by overcapacity in 2024, according to worst-case scenarios offered by industry analysts interviewed by EE Times.
  - “It depends on how many gigafabs get built,” said Dan Hutcheson, CEO of VLSI Research, who predicts overcapacity by 2024, noting that governments tend to be heedless of the profit-maximization mantra that has driven the semiconductor industry in recent years. <https://www.eetimes.com/chip-shortages-may-persist-until-2023-analysts-say/>
- **TSMC Founder Warns Semiconductor Plans Could Fail**
  - “What may happen is that, after hundreds of billions and many years have been spent, the result will still be a not-quite-self-sufficient, and high-cost, supply chain,” Cheng told the conference, according to a transcript of his remarks. <https://www.silicon.co.uk/projects/outsourcing/tsmc-semiconductor-risk-407290>

## Silver

- **DKEM reportedly to acquire DuPont PV silver paste business**
  - DK Electronic Materials, one of the two largest China-based makers of conductive PV silver paste used in production of solar cells, will invest CNY1.247 billion (US\$192 million) to acquire DuPont's silver paste business, including patents, according to Chinese media reports.
  - DuPont, Germany-based Heraeus, South Korea-based Samsung SDI and Taiwan-based Giga Solar Materials used to be major suppliers of PV silver paste, the sources noted. As Chinese solar cell makers together have had a global market share of about 85%, Chinese PV silver paste makers have emerged since 2017, the sources said. <https://digitimes.com/news/a20210720PD203.html>
- **Researchers invented a new touchscreen material so we never run out**
  - The plasma is used to bombard a tungsten solid target, detaching atoms from it and depositing them as a super-thin layer onto the glass surface. We then repeat this process using silver, and then a final third time tungsten oxide embedded with silver nanoparticles. The entire process takes only a few minutes, produces minimal waste, is cheaper than using indium, and can be used for any glass surface such as a phone screen or window. <https://thenextweb.com/news/indium-alternative-wont-run-out-touchscreen-devices-syndication>
- **Tanaka Develops Brazing Filler Metal/Copper Composite Material for Power Devices**
  - A composite cladding of copper material with active brazing filler metal (alloy of silver, copper, tin, and titanium) on one side, the new product can be joined directly to any material including ceramics, oxides, nitrides, and carbides, and carbon materials. It can also be tailored to customer needs, ranging from supply of prototypes using this product to brazing processes, testing, and evaluation. <https://www.eetindia.co.in/tanaka-develops-brazing-filler-metal-copper-composite-material-for-power-devices/>
- **‘Polysilicon shortage will continue through 2021’ – pv magazine International**
  - The world will break the 200 GW barrier for new solar next year, two years earlier than predicted by the lobby group a year ago, by adding 203 GW, and a further 225 GW will come online in 2023; 239 GW in 2024; and 266 GW in 2025. That would add up to a global solar generation fleet of 1.8 TW by

the middle of the decade, with the 1 TW mark passed at some point next year. SolarPower Europe added that its optimistic forecast scenario, the world could have 2.15 TW of solar by the end of 2025, especially if mooted green hydrogen generation plants begin to take shape during that period.

- Matt: My current Silver PV base model: 725 Moz cum Silver demand 2021-25 with 156 Moz in 2025
- Matt: SoloPower EU Base Case model: 822 Moz cum Silver demand 2021-25 with 203 Moz in 2025
- Matt: SoloPower EU Optimistic model: 1,033 Moz cum Silver demand 2021-25 with 277 Moz in 2025  
<https://www.pv-magazine.com/2021/07/22/polysilicon-shortage-will-continue-through-2021/>

## **Precious Metals Mining:**

- **The scale of the (S. African Riots) destruction**
  - Early estimates from some of the major players are in – and the numbers are huge.
  - On Friday night, President Cyril Ramaphosa referenced “preliminary reports compiled by NatJoints” which said “extensive damage has been caused to 161 malls and shopping centres, 11 warehouses, 8 factories and 161 liquor outlets and distributors”.
  - Earlier in the week, the South African Property Owners Association (Sapoa) said “some 800 stores have been looted and 100 malls have been either been burnt down or have suffered significant fire damage and a number of distribution centres particularly in Durban, KwaZulu-Natal, have been looted with serious structural destruction”. Both the NatJoints & Sapoa figures are on the low side.  
<https://www.moneyweb.co.za/news/companies-and-deals/the-scale-of-the-destruction/>
- **Diamonds and platinum sparkle in Anglo American's Q2 production**
  - PGM metals production at South African unit Anglo American Platinum + 59% to 1.06 Moz.
  - Anglo American's production rose by 20% in 2Q, helped by higher output of platinum and diamonds despite operations running at 95% of full capacity because of COVID-19 disruptions.  
[http://uk.reuters.com/article/uk-anglo-amercon-outlook-idUKKBN2EQOIL?utm\\_source=34553&utm\\_medium=partner](http://uk.reuters.com/article/uk-anglo-amercon-outlook-idUKKBN2EQOIL?utm_source=34553&utm_medium=partner)
- **South Africa's Mining Output in May 2021 up 22% YoY**
  - The Department of Statistics of South Africa announced that the domestic mining production increased by 21.9% YoY in May 2021.  
<https://www.steelguru.com/mining/south-africas-mining-output-in-may-2021-up-22-yoy>
- **Unki Mines invests US\$48m to boost plant capacity**
  - Platinum producer, Unki Mines, has invested US\$48 million towards increasing its concentrator capacity which is expected to boost output by 30 percent.  
<https://nehandaradio.com/2021/07/19/unki-mines-invests-us48m-to-boost-plant-capacity/>
- **Montana Drops 'Bad Actor' Case Against Hecla Mining Company**
  - Montana environmental regulators are dropping their case to disqualify Hecla Mining from getting future mining permits in the state. The company's CEO was previously an executive with Pegasus Gold, which abandoned mines in Montana.  
<https://www.mtpr.org/montana-news/2021-07-16/montana-drops-bad-actor-case-against-hecla-mining-company>
- **Amplats contemplates next step after losing out to Chinese company in Limpopo village**
  - Amplats subsidiary, Modikwa Platinum Mine (S. Africa Eastern Limb), which it owns jointly with African Rainbow Minerals, had accused Zijin's Nkwe Platinum of encroaching on its land in Maandagshoek village while it only had rights to mine in the Ga-Ratau and Leolo villages.
  - However, the Polokwane High Court dismissed Modikwa Platinum's application with costs, giving Nkwe Platinum the go-ahead to continue its operations.  
<https://www-news24-com.cdn.ampproject.org/c/s/www.news24.com/amp/citypress/news/amplats-contemplates-next-step-after-losing-out-to-chinese-company-in-limpopo-village-20210720>
- **Sibanye elects not to up stake in Canada palladium/copper venture**
  - Precious metals major Sibanye-Stillwater has elected not to increase its participation in Marathon palladium/copper project, in Canada, to 51%, JV partner Generation Mining reported on Wednesday.

- Matt: this is a great project with a complete green basket of metals including silver, copper, and platinum. I'm confident Generation Mining will find funding to get this project off the ground.  
<https://www.miningweekly.com/article/sibanve-elects-not-to-up-stake-in-canada-palladiumcopper-venture-2021-07-22>

## **E-Waste & Precious Metals Recycle Related:**

- **Catalytic converter thefts are up 175% in California, State Farm report says**
  - Catalytic converter theft claims were up 175% among State Farm customers in California from July 1, 2020, to June 30, 2021, compared with the same period last year, data from the insurance company shows. That means more than 6,400 catalytic converters have been stolen in the state just from State Farm customers — and a claim filed with the insurance company — in 12 months.  
<https://www.sfgate.com/bayarea/article/Catalytic-converter-thefts-up-175-in-California-16332630.php>
- **Green Technologies Cause Massive Waste and Pollution - IER**
  - EV batteries, solar panels, and wind turbines result in a massive amount of waste and pollution. China is responsible for half of the total electric vehicles in the world, number that is growing rapidly. About half of its retired batteries are not disposed in an environmentally sound way, causing significant waste and pollution problems detailed below. Batteries can be recycled but the cost is high, as it is with solar panels, which can contain hazardous materials. Most solar panels end up in landfills as do wind turbines, whose large blades are a major factor in their disposal. The U.S. does not have a policy for recycling these green technologies, which means that landfills can expect to see a massive increase in disposed materials from them as President Biden seeks to implement his net-zero carbon plan for all U.S. energy by 2050.  
<https://www.instituteforenergyresearch.org/renewable/green-technologies-cause-massive-waste-and-pollution/>
- **(E-Waste) Recycler expands footprint in Sunshine State**
  - Urban E Recycling opened a new site earlier this year, the latest development for a e-scrap processor that has found a niche by focusing on smaller clients and providing free collection of material.
  - Husband-and-wife company owners Greg and Dell Rabinowitz opened a third processing location in February, in Orlando. That came about 15 months after launching their second facility, in Bradenton, about 45 miles south of Tampa.  
[https://resource-recycling.com/e-scrap/2021/07/22/recycler-expands-footprint-in-sunshine-state/?utm\\_medium=email&utm\\_source=internal&utm\\_campaign=July+22+ESN](https://resource-recycling.com/e-scrap/2021/07/22/recycler-expands-footprint-in-sunshine-state/?utm_medium=email&utm_source=internal&utm_campaign=July+22+ESN)

## **Platinum**

- **PGMs: Supply Security and The South African Connection**
  - In the PGM world, S. Africa is responsible for 78% of global Pt and 37% of global Pd production. The recent rioting and looting on the back of the arrest of former president Jacob Zuma once again highlights the potential for disruption to S. African supply of key minerals. In 2020 S. African mining disruptions from power outages and Covid-related mining closures resulted in Pt and Pd production declining ~25% and 13% respectively. Whilst it appears that the recent rioting has not affected the production of Pt and Pd, the widespread violence disrupted ports in Durban and Richards Bay, as well as key rail lines between Johannesburg and Durban, and the N3 highway connecting Gauteng and KwaZulu-Natal provinces. Is there a risk premium on supply of S. African PGMs and do the supply forecasts for the clean energy metals incorporate the risks of disruption in emerging markets?  
<https://www.linkedin.com/pulse/pgms-supply-security-south-african-connection-hamad/>
- **WPIC: Is platinum less available than widely thought?**
  - Platinum lease rates began rising this year on 17th June, with the one-month rate rising from 0.03% in mid-June to 2.6% in mid-July. This year's increase has attracted little analysis, unlike the March-2020 spike, when rates reached 7%. The surge in 2020 was due to pandemic-related transport disruptions that limited the free flow of metal between markets. Low availability was widespread,

hence the acute spike in rates, while delivery risk to market makers led to disruption of trading of NYMEX platinum futures.

- Current futures activity and metal flows appear to be orderly and there has not been an identifiable disruptive event. Indeed, we believe the recent spike is driven by unavailability of platinum to meet stronger than expected demand. Put more simply, parties contractually committed to supply platinum, that planned to buy it, could not find a supplier with stock and had to lease the platinum. [https://platinuminvestment.com/files/834432/WPIC\\_Platinum\\_Perspectives\\_July\\_2021.pdf](https://platinuminvestment.com/files/834432/WPIC_Platinum_Perspectives_July_2021.pdf)
- **Extremely strong demand for platinum bar and coin – WPIC**
  - Extremely strong demand for platinum bar and coin is being seen around the world, particularly in the US, along with growth in demand for platinum exchange traded funds (ETFs), mainly out of North America and Europe. <https://www.miningweekly.com/article/extremely-strong-demand-for-platinum-bar-and-coin-wpic-2021-07-22>
- **Conformation-modulated three-dimensional electrocatalysts for high-performance fuel cell electrodes**
  - Unsupported Pt electrocatalysts demonstrate excellent electrochemical stability when used in polymer electrolyte membrane fuel cells; however, their extreme thinness and low porosity result in insufficient surface area and high mass transfer resistance. Here, we introduce three-dimensionally (3D) customized, multiscale Pt nanoarchitectures (PtNAs) composed of dense and narrow (for sufficient active sites) and sparse (for improved mass transfer) nanoscale building blocks. The 3D-multiscale PtNA fabricated by ultrahigh-resolution nanotransfer printing exhibited excellent performance (45% enhanced maximum power density) and high durability (only 5% loss of surface area for 5000 cycles) compared to commercial Pt/C. <https://advances.sciencemag.org/content/7/30/eabe9083.full>

## **Fuel Cells/Hydrogen Economy Related Articles:**

- **Hydrogen Insights 2021 – July 15<sup>th</sup> update**
  - An updated perspective on H<sub>2</sub> investment, market development & momentum in China
  - Was \$300 Billion USD in investment, now \$500+ Billion. Was 296 projects, now 359 H<sub>2</sub> projects globally with 69 GW of clean hydrogen by 2030. 6,700,000 mtpa of Green Hydrogen or 6.7 billion kg H<sub>2</sub>/year from 43 GW of green electrolyzers.
  - Matt if 38% of Green H<sub>2</sub> is PEM, like early mix indicates, at today's Ir loadings represents 210 koz of Iridium demand or 80% of 1-years supply from tight PGM minor market. <https://hydrogencouncil.com/wp-content/uploads/2021/07/Hydrogen-Insights-July-2021-Executive-summary.pdf>
- **Chevron & Cummins sign MoU on H2 technologies**
  - The initial collaboration is expected to be hinged on four points: building market demand for H<sub>2</sub> commercial vehicles and industrial H<sub>2</sub> applications, developing H<sub>2</sub> infrastructure, addressing hydrogen in transportation and industry in policy, and specifically exploring use scenarios for Cummins' electrolyzer and FC technologies in Chevron refineries. <https://www.electrive.com/2021/07/18/chevron-cummins-sign-mou-on-h2-technologies/>
- **Net Zero with H<sub>2</sub> Is on the Horizon, We Need the World on Board to Get There – H<sub>2</sub> Council**
  - By Amy Adams, Vice President: Fuel Cell & H<sub>2</sub> Technologies at Cummins, H<sub>2</sub> Council member
  - It's encouraging to see the rising number of countries that have H<sub>2</sub> strategies in place, but we must remember that H<sub>2</sub> is a systemic play, and to make the most out of its decarbonising power, our ambitions must be global. Today, almost all H<sub>2</sub> is used in the location of production, but this is set to change. ~30% of announced production capacity by 2030 will be transported by ships or pipelines from countries with ample renewable energy resources such as Australia, Saudi Arabia and Chile. We need comprehensive international action to firmly establish these trade routes, spur innovation, and build the cross-border

infrastructure we need at large scale. By engaging in multilateral partnerships, businesses can stimulate trade flows between supply and demand centres, and drive competition.

<https://hydrogencouncil.com/en/net-zero-with-hydrogen-is-on-the-horizon-we-need-the-world-on-board-to-get-there/>

- **Hyzon Motors goes public to scale hydrogen trucks**
  - Now that the company has completed its business combination with Decarbonization Plus Acquisition Corporation (DCRB) and has access to about \$626 million of cash, Hyzon is far closer to its goal of producing 40,000 fuel cell vehicles (including buses) annually by the end of 2025. DCRB public shareholders and founders gain 10% ownership in Hyzon, with private investment in public equity investors owning 15%.  
<https://www.fleetowner.com/emissions-efficiency/article/21169948/hyzon-motors-goes-public-to-scale-hydrogen-trucks>
- **Kola nuclear power plant is building a hydrogen test facility**
  - Nuclear Powered Electrolysis for Turquoise H<sub>2</sub>
  - “In 2023, we (Russia) must put into operation a complex with electrolysis plants with a capacity of 1MW, then it is planned to increase the capacity and productivity to 10 MW. If the technology works, then it will be reproduced throughout the Russian Federation,”  
<https://www.hydrogenfuelnews.com/hydrogen-test-kola/8547625/>
- **JM Expert insights: There’s more than one road to a zero-carbon future**
  - There’s more than one road to a zero-carbon future
  - JMs Andy Walker on why the use of battery electric vehicles will be vitally important, but won’t be enough to clean up our roads on their own.  
<https://matthey.com/en/science-and-innovation/expert-insights/2021/theres-more-than-one-road-to-a-zero-carbon-future>
- **Wärtsilä Launches Test with Hydrogen & Ammonia**
  - The technology group Wärtsilä continues to lead the ongoing transformation of the energy and marine sectors towards carbon-free solutions through its future fuel development work. The company is pioneering the adoption of hydrogen and ammonia as viable engine fuels through advanced testing in Wärtsilä’s fuel-flexible combustion engines.  
<https://www.steelguru.com/logistics/wrtsil-launches-test-with-hydrogen-ammonia>

## **Palladium**

- **Palladium Price Analysis: XPD/USD looks set for more gains above \$2,600**
  - Palladium prices extend previous day’s bounce off one-month low.
  - Sustained U-turn from 200-day EMA, 50% Fibonacci retracement breakout favor bulls.
  - Key Fibonacci retracement levels, June low also challenge bulls.  
<https://www.fxstreet.com/news/palladium-price-analysis-xpd-usd-looks-set-for-more-gains-above-2-600-202107210535>
- **China's Auto Sales up 27% in 2021, but Hurt by Chip Shortage**
  - An industry group says China’s auto sales rose 27% in the first half of 2021 from a year earlier but still were below pre-pandemic levels.  
<https://www.usnews.com/news/business/articles/2021-07-09/chinas-auto-sales-up-27-in-2021-but-hurt-by-chip-shortage>
- **Toyota launches Aqua hybrid with bipolar nickel-hydrogen battery | Engine + Powertrain Technology International**
  - Toyota has announced the release of a new model for the Japanese market. The Aqua (known as the Prius C in other markets) is said to be around 20% more fuel efficient (WLTC) than the previous-generation vehicle. With a fuel efficiency of 3.4 l/100km, the Aqua’s powertrain consists of a highly

efficient 1.5-liter Dynamic Force engine and an optimized HEV system. It is claimed to be the first vehicle to use a high-output bipolar nickel-hydrogen battery as an electric drive battery.

<https://www.enginetechnologyinternational.com/news/hybrid-powertrain-technologies/toyota-launches-aqua-hybrid-with-bipolar-nickel-hydrogen-battery.html>

## **PGM Minor Metals (Rhodium, Iridium, Ruthenium, Osmium)**

- **Iridium OLED Compounds Demand Risk: KB Securities: Samsung Display will mass-produce large-size QD OLEDs in Q3 ahead of schedule**
  - Mass production of QD Display panels will be advanced from the originally scheduled Q4 to 3Q.
  - Kim Dongwon predicts that Samsung Electronics is likely to be equipped with SDC QD display in the next generation of new TV products. The main reason is that the image quality of the OLED panel is better than that of the LCD, and the price of the LCD panel has continued to rise recently.
  - Matt: QLED will be the display technology that displaces OLED by the end of the decade. QLED does not use Iridium like OLED does today.  
<https://nanosys.com/blog-archive/kb-securities-samsung-display-will-mass-produce-large-size-qd-oleds-in-q3-ahead-of-schedule>
- **Ru Ammonia Catalyst: POSCO, Doosan to develop ammonia power-generation technology**
  - POSCO is seeking to develop power generation technology using ammonia synthesized from green and blue hydrogen. The steelmaker is partnering with Doosan Heavy Industries and the Pohang-based Research Institute of Industrial Science & Technology (RIST) to develop technology utilizing ammonia gas turbines. Representatives held discussions on Monday and agreed to work together to develop the necessary technology. The power generation technology they are seeking to develop operates a turbine by burning hydrogen produced by decomposing ammonia.  
[https://www.koreatimes.co.kr/www/tech/2021/07/515\\_312393.html](https://www.koreatimes.co.kr/www/tech/2021/07/515_312393.html)
- **Ru Ammonia Catalyst Market Related: GTT To Design Fuel Tanks For Seaspan's LNG-Powered**
  - The vessels, to be chartered by Israeli firm ZIM, will be able to carry 15,000 containers each. The fuel tank of each vessel will offer a capacity of 12,000 m<sup>3</sup> and will be fitted with the Mark III membrane containment system. These tanks will include features to facilitate a potential conversion of these vessels to ammonia.
  - Matt: Maritime industry efforts to move to hydrogen based fuels continue.  
<https://www.marinelink.com/news/gtt-design-fuel-tanks-seaspans-lingpowered-489346>
- **Ru & Pt PVD Targets: Emerging Memories \$44 Billion Revenue Projected By 2031**
  - (Coughlin & Assoc. forecasts) standalone MRAM and STT-RAM revenues will grow to about \$1.7 billion, or over 42x the 2020's standalone MRAM revenues.  
<https://www.forbes.com/sites/tomcoughlin/2021/07/15/emerging-memories-44b-revenue-projected-by-2031/>

## **Clean Energy General News (New Section)**

- **IEA (International Energy Agency) net-zero roadmap “a fairy tale”**
  - The IEA stunned markets in May with the publication of its Net Zero by 2050 roadmap, which calls for an immediate end to new investments in oil and gas projects as part of a “total transformation of the energy systems that underpin our economies.” According to Cyril Widdershoven, an energy analyst at Dutch consultancy VEROCY, the IEA’s recommendation is “irresponsible” and “incomprehensible.” “If we do this, there will be shortages in five or six years that will severely impact the world economy,” he tells NGW in an interview.  
<https://www.naturalgasworld.com/iea-net-zero-roadmap-a-fairy-tale-gas-in-transition-90136?utm>
- **The US has to mine more minerals to meet EV, clean energy demands**
  - We could eventually reach some of our materials needs by recycling, but there is very little to recycle at this point. So, we’re going to have to bring on new mines to meet the demand.

- It becomes an issue of how much control you want over your supply chain and how difficult it can be to bring supplies from overseas during wartime or political upheaval. It's a very complex discussion because it involves energy, defense, economics, diplomacy, and other areas.  
<https://electrek.co/2021/07/16/the-us-has-to-mine-more-minerals-to-meet-ev-clean-energy-demands/>
- **Japan to boost renewable energy to meet emissions target**
  - The Economy & Industry Ministry's draft energy plan says renewables should account for 36-38% of the power supply in 2030, up from the current target of 22-24%, and that newly introduced fuels such as H<sub>2</sub> and ammonia should comprise 1%. The new plan slashes the use of fossil fuel from 56% to 41%.  
<https://apnews.com/article/business-japan-8cbe2b4b88d22a79ef9a163e858cce2e>
- **Higher dollar, demand doubts dent copper market sentiment**
  - Copper prices slipped on Monday as worries about demand in top consumer China were reinforced by a higher dollar and plans by China's state planner to release copper and other industrial metals from its reserves. Benchmark copper CMCU3 on the London Metal Exchange was down 1.2% at \$9,315 a tonne at 0918 GMT. China's moves to halt the rally that has pushed up raw material costs for Chinese manufacturers is a major reason behind copper's more than 10% drop since hitting a record high of \$10,747.50 a tonne in May.  
<https://www.nasdaq.com/articles/metals-higher-dollar-demand-doubts-dent-copper-market-sentiment-2021-07-19>
- **Iron ore is in a bull market — and it won't run out of steam soon, says Goldman**
  - "It would be wrong to say that the bull market for iron ore, you know, is on the cusp of ending," said Nicholas Snowden, head of base metals and bulks research at Goldman Sachs.
  - Prices are being supported by very strong demand and suppliers have been disciplined in not increasing production, he explained, adding that inventories are also very low.
  - While prices are not likely to remain above \$200 per ton, there won't be a collapse and they could hover between \$100 to \$150 per ton, analysts at the Singapore Iron Ore Forum said.  
<https://www.cnbc.com/2021/07/16/goldman-sachs-on-iron-ore-bull-run-outlook.html>
- **BP and Johnson Matthey partner for catalysis project aimed at sustainable fuels - Chemical Engineering**
  - bp and Johnson Matthey plc (Both London, U.K.) are partnering with Cardiff University and The University of Manchester in a £9-million project that aims to convert CO<sub>2</sub>, waste and sustainable biomass into clean and sustainable fuels and products.  
<https://www.chemengonline.com/bp-and-johnson-matthey-partner-for-catalysis-project-aimed-at-sustainable-fuels/?printmode=1>

## **BEV / LiB Battery Market News**

- **New York Beating London as Trading Hub for Booming Cobalt Market**
  - Cobalt futures trading is taking off in New York as CME Group Inc. steals a march on its rival bourse, the London Metal Exchange, in the volatile and rapidly growing market for the critical battery metal.
  - Trading activity in CME's contract has been gathering steam since its launch in December, with a flurry of recent transactions in long-dated contracts pointing to significant hedging activity by industrial users. Managing price risks has become a fraught issue in the cobalt industry, with top producer Glencore Plc forced to renegotiate contracts with some of its key Chinese customers in 2018 after prices plunged. The Comex contract has rallied 57% in the year to date, making cobalt one of the best-performing industrial commodities this year.  
<https://www.bloomberg.com/news/articles/2021-07-15/cobalt-trading-takes-off-on-comex-as-london-contract-eclipsed>
- **Hydrogen Council: H<sub>2</sub> Investment Pipeline Grows to \$500 Billion in Response to Government Commitments to Deep Decarbonization**
  - Was \$300 Billion, now \$500 Billion. Was 226 now 359 large-scale projects announced globally.

- Europe is leading with investments of \$130bn, but other regions are catching up.
- China emerges as potential H<sub>2</sub> giant with 50+ projects, following announcement of net-zero emissions by 2060. Matt: Meanwhile China is building 350+ coal fired plants and have secured additional 1 million mt of coal. Laughable headlines.  
<https://hydrogencouncil.com/en/hydrogen-insights-updates-july2021/>
- **Australia miner BHP shares jump on news of nickel supply deal with Tesla EVs**
  - BHP said Thursday it will be supplying Tesla with nickel from one of its mines based Western Australia, Nickel West. "Demand for nickel in batteries is estimated to grow by over 500 per cent over the next decade, in large part to support the world's rising demand for electric vehicles," BHP Chief Commercial Officer Vandita Pant said in the statement.
  - Major miners are set to go bigger in the mining resources needed to decarbonize the global economy, said Vivek Dhar, a commodity analyst from the Commonwealth Bank of Australia.  
<https://www.cnbc.com/2021/07/22/australia-miner-bhp-shares-jump-on-news-of-nickel-supply-deal-with-tesla-evs.html>
- **Stainless steel strength and supply hits reinforce nickel**
  - China's stainless output surged by 19% year-on-year in the fourth quarter of last year and by an eye-watering 37% in the first three months of 2021, according to the International Stainless-Steel Forum.
  - The boom shows every sign of continuing with a tight physical supply chain evidenced by the backwardation structure on the Shanghai forward curve.
  - China is leading the metallic recovery once again but stainless production in the rest of the world has also been enjoying a sharp recovery bounce with growth of 12% in the first quarter.  
<https://www.reuters.com/article/uk-metals-nickel-ahome-idUSKBN2ER1PH>
- **Nornickel produces first batch of certified carbon-neutral nickel**
  - Thanks to the energy efficiency improvements, Nornickel Group has already reduced its carbon dioxide emissions by almost 47 kt in 2019-2020, as confirmed by Ernst & Young (EY), a global auditing company. Separately, with the help of a leading independent international consultant, Nornickel also calculated the carbon footprint of nickel produced in accordance with international standards ISO 14040 and 14044, which amounted to 8.1 tonnes of CO<sub>2</sub> per tonne of finished product.
  - Matt: IEA states the industry average Nickel emission per 1 mt processed is 10.0 mt of CO<sub>2</sub>, others state 13.0 mt, so Nornickel is 20%-39% below the nickel mining/processing industry CO<sub>2</sub> norm.  
<https://www.nornickel.com/news-and-media/press-releases-and-news/nornickel-produces-first-batch-of-certified-carbon-neutral-nickel/>
- **China frictions steer electric automakers away from rare earth magnets**
  - As tensions mount between China and the United States, automakers in the West are trying to reduce their reliance on a key driver of the electric vehicle revolution - permanent magnets, sometimes smaller than a pack of cards, that power electric engines.  
<https://www.reuters.com/business/autos-transportation/china-frictions-steer-electric-automakers-away-rare-earth-magnets-2021-07-19/>
- **Long Term Lithium Offtake Agreement – LG Energy and Vulcan Energy Resources**
  - Vulcan Energy Resources has signed a binding lithium offtake term sheet with LG Energy solution for 5 years and up to 10,000tpy  
[https://www.linkedin.com/posts/vincentpedaillesledoux\\_pleased-to-announce-that-vulcan-energy-activity-6822654766364008448-SHE5](https://www.linkedin.com/posts/vincentpedaillesledoux_pleased-to-announce-that-vulcan-energy-activity-6822654766364008448-SHE5)
- **Volkswagen seeks partners for battery materials race**
  - Volkswagen in talks with battery materials suppliers
  - Aim is to have small number of big suppliers
  - Close to picking partner for Salzgitter battery plant  
<https://www.reuters.com/business/autos-transportation/volkswagen-seeks-partnerships-battery-materials-race-2021-06-15/>
- **Canada aiming to shift to all zero-emission electric vehicles by 2035**

- The government of Canada recently announced its plans to eliminate combustible engine-run cars and light trucks by 2035 as part of its net-zero emissions goal to limit further global warming.  
<https://globalnews.ca/news/8039066/canada-zero-emission-electric-vehicles/>

**Regards –**